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(54) **AUTOMATED INHALATION TOXICOLOGY EXPOSURE SYSTEM**

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(58) Field of Search 128/203.14, 200.14; 119/420

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(57) **ABSTRACT**

In one embodiment, a method includes but is not limited to exposing an animal to an inhalant; acquiring near real time measurement of at least respiration during said exposing; and calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said exposing. In one embodiment, a method includes but is not limited to automatically controlling an environment of an inhalant chamber; and automatically controlling a concentration of an inhalant in the inhalant chamber. In one embodiment, a method includes but is not limited to displaying near real time measurement data related to an animal in an inhalant chamber. In addition to the foregoing, other method embodiments are described in the claims, drawings, and text forming a part of the present application. In one or more various embodiments, related systems include but are not limited to circuitry and/or programming for effecting the foregoing-described method embodiments; the circuitry and/or programming can be virtually any combination of hardware, software, and/or firmware configured to effect the foregoing-described method embodiments depending upon the design choices of the system designer. In one embodiment, a system includes but is not limited to at least one inhalant chamber; and at least one animal respiration sensor integral with the at least one inhalant chamber.

81 Claims, 18 Drawing Sheets

